

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-19. (Cancelled)

20. (Currently Amended) A method for treating cancer comprising:
administering to a subject having cancer an effective amount of a composition comprising an agent that decreases activity of a mechanosensitive ion Ca^{2+} -permeable (MscCa) channel present on a cancer cell, wherein a symptom of the cancer is decreased.

21. (Currently Amended) A method for decreasing metastasis of a cancer cell comprising:
administering to a subject at risk of developing cancer an effective amount of a composition comprising an agent that decreases activity of a mechanosensitive ion Ca^{2+} -permeable (MscCa) channel.

22. (Currently Amended) A method for decreasing a symptom associated with cancer comprising:
administering to a subject having cancer an effective amount of a composition comprising an agent that decreases activity of a mechanosensitive ion Ca^{2+} -permeable (MscCa) channel.

23. (Cancelled)

24. (Withdrawn) The method of claim 20, 21, or 22 wherein the agent is a polypeptide comprising an amino acid sequence comprising at least 90% identity to SEQ ID NO:1 or to SEQ ID NO:7.

Amendment and Response

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For: MECHANOSENSITIVE ION CHANNELS AND METHODS OF USE

25. (Withdrawn) The method of claim 24 wherein the agent is a polypeptide comprising SEQ ID NO:1 or SEQ ID NO:7.

26. (Original) The method of claim 23 wherein the agent is an antibody that specifically binds an MscCa polypeptide.

27. (Original) The method of claim 26 wherein the antibody binds to an epitope present on SEQ ID NO:5 or SEQ ID NO:6.

28. (Withdrawn) The method of claim 23 wherein the MscCa channel comprises an MscCa polypeptide, and wherein the agent is a polynucleotide that decreases expression of the MscCa polypeptide.

29. (Currently Amended) The method of claim 20, 21, or 22 wherein the cancer is prostate cancer, breast cancer, colon cancer, lung cancer, bladder cancer, ovary cancer, pancreas pancreatic cancer, or skin cancer.

30. (Original) The method of claim 23 wherein the agent decreases activity of an MscCa channel comprising a polypeptide comprising SEQ ID NO: 2.

31-34. (Cancelled)

35. (NEW) The method of claim 20, 21, or 22 wherein the cancer is prostate cancer.

36. (NEW) A method comprising:

contacting a cell with an effective amount of a composition comprising an antibody that specifically binds a mechanosensitive Ca^{2+} -permeable (MscCa) channel, wherein the activity of the MscCa channel present on a cell is decreased, and wherein the

decreased activity is decreased movement of Ca^{2+} through the channel, decreased motility of the cell, decreased invasiveness of the cell, decreased proliferation of the cell, increased apoptosis of the cell, or a combination thereof.

37. (NEW) The method of claim 35 wherein the cell is *ex vivo*.

38. (NEW) The method of claim 36 wherein the wherein the cell is *in vivo*.

39. (NEW) The method of claim 36 wherein the antibody specifically binds to an epitope present on SEQ ID NO:5 or SEQ ID NO:6.

40. (NEW) A method for decreasing motility of a cancer cell comprising:
administering to a subject at risk of developing cancer an effective amount of a composition comprising an antibody that specifically binds to an epitope present on SEQ ID NO:5 or SEQ ID NO:6.

41. (NEW) A method for decreasing metastasis of a cancer cell comprising:
administering to a subject at risk of developing prostate cancer an effective amount of a composition comprising an aantibody that decreases activity of a mechanosensitive Ca^{2+} -permeable (MscCa) channel.

42. (NEW) The method of claim 26 wherein the antibody specifically binds to an epitope present on SEQ ID NO:5 or SEQ ID NO:6.